

U.S. PATENT AND TRADEMARK OFFICE

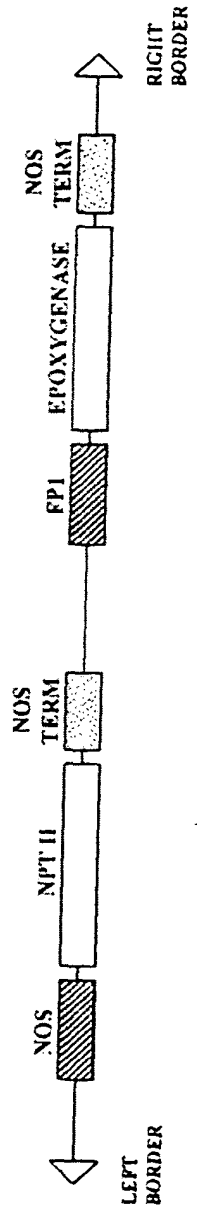


FIGURE 1

FIGURE 2A

Cpa12	.....MGAG	GR.....	..GRTSEKSV	MERSVSDPVT	FSLSELKQAI
CrepX	.....MGAG	GR.....	..GRTSEKSV	MERSVSDPVT	FSLSELKQAI
Vga11	.....	.....	.....	.....	.....
Vga1	.....MGAG	GRM.....	NTTDDDDQKNL	FORVPASKPP	FSLADLKKAI
Crep1	.....MGGG	GR.....	..GRTSQKPL	MERSVDP.P	FTVSDLKQAI
L26296	.....MGAG	GRMPV...	P TSSKKSETDT	TKRVPCEKPP	FSVGDLLKKAI
X91139	.....MGAG	GRMQV...	S PSPKKSETDI	LKRVPCEKPP	FTVGEELKKAI
L43921	.....MGAG	GRTDV...	P PANRKSEVDP	LKRVPFEKPP	FSLSQIKKAI
X92847	.....MGAG	GRMSA...	P NGETEVKRN	LQKVPTSKPP	FTVGDIIKKAI
L43920	MGLAKETT	MG GRGRV...	A KVEVQ GK.KP	LSRVPNTKPP	FTVGGQLKKAI
U22378	.....MGGG	GRMSTVITSN	NSEKKGSSH	LKRAPHTKPP	FTLGDLLKRAI

FIGURE 2A

FASTA FILE

Cpa12	51	PPHCFQRSVI	RSSYYVVQDL	I IAYIFYFLA	NTYIPTLPTS	LAY.LAWPVY	100
CrepX		PPHCFQRSVI	RSSYYVVQDL	I IAYIFYFLA	NTYIPTLPHP	LAY.LAWPLY	
Vga11		.....	.....	.....	.....	.....
Vga1		PPHCFQRSLL	RSSYYVVHDL	VWAYVFYLA	NTYIPLLSP	LAYLLAWPLY	
Crep1		PPHCFKRSVI	RSSYYIVHDA	I IAYIFYFLA	DKYIPILPAP	LAY.LAWPLY	
L26296		PPHCFKRSIP	RFSYLI SDI	I IASCFYYVA	TNYFSLLPQP	LSY.LAWPLY	
X91139		PPHCFKRSIP	RFSYLIWDI	I VASCFYYVA	TTYFPLLPHP	LSY.VAWPLY	
L43921		PPHCFQRSVL	RFSYVVYDL	TIAFCLYYVA	THYFHLLPGP	LSF.RGMAYI	
X92847		PPHCFQRSLI	RFSYVVYDL	I LVSIMYYVA	NTYFHLLPSP	YCY.IAWPIY	
L43920		PPHCFQRSLL	TSFSYVVYDL	SFAF.IFYIA	TTYFHLLPQP	FS.LIAWPIY	
U22378		PPHCFERSFV	RFSYVAYDV	CLSFLFY SIA	TNFFPYISSP	LS.YVAQLVY	

FIGURE 2B

TABLE 2

Cpa12	101	WFCQASVLTG	LWILGHECGH	HAFSNTWFD	DTVGFILHSF	LLTPYFSWKF	150
CrepX		WFCQASVLTG	LWILGHECGH	HAYSNTWVD	DTVGFILHSF	LLTPYFSWKY	
Vga11		.....	HAFSDYQWID	DTVGFILHFA	LFTPYFSWKY	LFTPYFSWKY	
Vga1		WFCQGSILTG	VWVIGHECGH	HAFSDYQWID	DTVGFILHSA	LFTPYFSWKY	
Crep1		WFCQASILTG	LWVIGHECGH	HAFSDYQWVD	DTVGFILHSF	LFTPYFSWKY	
L26296		WACQGCVLTG	IWVIAHECGH	HAFSDYQWLD	DTVGLIFHSF	LLVPYFSWKY	
X91139		WACQGVVLTG	VWVIAHECGH	HAFSDYQWLD	DTVGLIFHSF	LLVPYFSWKY	
L43921		WACQGCVITG	VWVIAHECGH	HAFSDYQLLD	DIVGLILHSA	LLVPYFSWKY	
X92847		WICQGCVCCTG	IWVNAHECGH	HAFSDYQWVD	DTVGLILHSA	LLVPYFSWKY	
L43920		WVLQGCLLTG	VWVIAHECGH	HAFSKYQWVD	DVVGTLHST	LLVPYFSWKI	
U22378		WLFQGCILTG	LWVIGHECGH	HAFSEYQLAD	DIVGLIVHSA	LLVPYFSWKY	

FIGURE 2C

FASTA

Cpa12	<u>SHRNHHSNTS</u>	SIDNDEVYIP	KSKSKLARIY	KLLNPPGRL	LVLIMFTLG	200
CrepX	<u>SHRNHHSNTS</u>	SIDNDEVYIP	KSKSKLKRIY	KLLNPPGRL	LVLVIMFTLG	
Vga11	<u>SHRNHHANTN</u>	SLVTDEVYIP	KVKSKVKIYS	KILNPPGGRV	FTLAFRLIVG	
Vga1	<u>SHRNHHANTN</u>	SLDNDEVYIP	KVKSKVKIYS	KILNPPGGRV	FTLAFRLIVG	
Crep1	<u>SHRNHHANTN</u>	SLDNDEVYIP	KSKAKVALYI	KVLNHPGRL	LIMFITFTLG	
L26296	<u>SHRNHHSNTG</u>	SLERDEVFVP	KQKSAIKWYG	KYLNPLGRI	MMLTVQFVLG	
X91139	<u>SHRNHHSNTG</u>	SLERDEVFVP	KKKSDIKWYG	KYLNPLGRT	VMLTVQFRTL	
L43921	<u>SHRNHHSNTG</u>	SLERDEVFVP	KQKSCIKWYS	KYLNPLGRL	LTLAVTTLTG	
X92847	<u>SHRNHHSNTG</u>	SLERDEVFVP	KPKSQLGWYS	KYLNPLGRL	LSLTITTLTG	
L43920	<u>SHRNHHSNTG</u>	S�DRDEVFVP	KPKSKVAVFS	KYLNPLGRA	VSLLVTLTIG	
U22378	<u>SHRNHHSNIG</u>	SLERDEVFVP	KSKSKISWYS	KYSNNPLGRV	LTLAATLLLG	

FIGURE 2D

FASTA format

					250
Cpa12	FPLYLLTNIS	GKKY.DRFAN	HFDPMSPIFK	ERERFQVFLS	DLGLLAVFYG
CrepX	FPLYLLTNIS	GKKY.DRFAN	HFDPMSPIFK	ERERFQVFLS	DLGLLAVFYG
Vga11	FPLYLFTNVS	GKKY.ERFAN	HFDPMSPIFT	EREHVQVLLS	DFGLIAVAVY
Vga1	FPLYLFTNVS	GKKY.ERFAN	HFDPMSPIFT	EREHVQVLLS	DFGLIAVAVY
Crep1	FPLYLFTNIS	GKKY.ERFAN	HFDPMSPIFK	ERERFQVLLS	DLGLLAVAYG
L26296	WPLYLAFNVS	GRPY.DGFAC	HFFPNAPIYN	DRERLQIYLS	DAGILAVCFG
X91139	WPLYWAFNVS	GRPYPEGFAC	HFHPNAPIYN	DRERLQIYVS	DAGILAVCYG
L43921	WPLYLAFNVS	GRPY.DRFAC	HYDPYGPIS	DRERLQIYIS	DAGVLAVVYG
X92847	WPLYLAFNVS	GRPY.DRFAC	HYDPYGPIN	NRERLQIFIS	DAGVLGVCYL
L43920	WPMYLAFNVS	GRPY.DSFAS	HYHPYAPIYS	NRERLLIYVS	DVALFSVTYS
U22378	WPLYLAFNVS	GRPY.DSFAC	HYDPYGPIFS	ERERLQIYIA	DLGIFATTFV

FIGURE 2E

SEQ ID NO: 2

	251							300
Cpa12	IKVAVANKGA	AWVACMYGVP	VLGVFTFFDV	ITFLHHTHQ	SPHYDSTEWN			
CrepX	IKVAVANKGA	AWVACMYGVP	VLGVFTFFDV	ITFLHHTHQ	SPHYDSTEWN			
Vga11	VRQAVLAKGG	AWVMCIYGVP	VLAVNAFFVL	ITYLHHTHLS	LPHYDSSSEWD			
Vga1	VRQAVLAKGG	AWVMCIYGVP	VLAVNAFFVL	ITYLHHTHLS	LPHYDSTEWD			
Crep1	VKLAVAAKGA	AWVTCIYGIP	VLGVFIFFDI	ITYLHHTHLS	LPHYDSSSEWN			
L26296	LYRYAAAQGM	ASMICLYGVP	LLIVNAFLVL	ITYLQHTHPS	LPHYDSSSEWD			
X91139	LYRYAAAQGV	ASMVCLYGVP	LLIVNAFLVL	ITYLQHTHPS	LPHYTSSEWD			
L43921	LFRLAMAKGL	AWVVCVYGVP	LLVVNGELVL	ITFLQHTHPA	LPHYDSSSEWD			
X92847	LYRIALVKGL	AWLVCVYGVP	LLVVNGELVL	ITYLQHTHPS	LPHYDSTEWD			
L43920	LYRVATLKGL	VWLLCVYGVP	LLIVNGELVL	ITYLQHTHFA	LPHYDSSSEWD			
U22378	LYQATMAKGL	AWVMRIYGVP	LLIVNCFLVM	ITYLQHTHPA	IPRYGSSEWD			

FIGURE 2F

FASTA format

301
Cpa12 WIRGALSAID RDFGFLNSVF HDVTHTHVMH HLFSYIPHYH AKEARDAIKP 350
CrepX WIRGALSAID RDFGFLNSVF HDVTHTHVMH HLFSYIPHYH AKEARDAIKP
Vga11 WLR.....
Vga1 WIKGALCTID RDFGFLNRVF HDVTHTHVLH HLISYIPHYH AKEARDAIKP
Crep1 WLRGALSTID RDFGFLNSVL HDVTHTHVMH HLFSYIPHYH AKEARDAINT
L26296 WLRGALATVD RYGIILNKVF HNITDTHVAH HLFSTMPHYN AMEATKAIKP
X91139 WLRGALATVD RYGIILNKVF HNITDTHVAH HLFSTMPHYH AMEATKAIKP
L43921 WLRGALATVD RYGIILNKVF HNITDTHVAH HLFSTMPHYH AMEATKAIKP
X92847 WLRGALATCD RYGIILNKVF HNITDTHVVH HLFSTMPHYH AMEATKAVKP
L43920 WLKGALATMD RYGIILNKVF HHITDTHVAH HLFSTMPHYH AMEATNAIKP
U22378 WLRGAMVTVD RYGIILNKVF HNIADTHVAH HLFATVPHYH AMEATKAIKP

FIGURE 2G

351
 Cpa12 ILGDFYMIDR TPILKAMWRE GRECMYIEPD S..KLKGVYW Y.HKL 398
 CrepX ILGDFYMIDR TPILKAMWRE GRECMYIEPD S..KLKGVYW Y HKL
 Vga11
 Vga1 VLGEYYKIDR TPIVKAMWRE AKNAYTLRLM KIASTKAHTG TTSCKARS
 Crep1 VLGDFYMIDR TPILKAMWRE AKECIFIEPE KGRESKGVYW Y.NKF
 L26296 ILGDYYQFDG TPWYVAMYRE AKECIYVEPD REGDKKGVYW YNNKL
 X91139 ILGDYYQFDG TPWYKAMWRE AKECIYVEPD RQGEKKGVFW YNNKL
 L43921 ILGEYYRFDE TPFVKAMWRE ARECIYVEPD QSTESKGVFW YNNKL
 X92847 LLGDYYQFDG TPIYKEMWRE AKECLYVEKD ESSQKGVFW YNNKL
 L43920 ILGEYYQFDD TPFYKALWRE ARECLYVEPD EGTSEKGVYW YRNKY
 U22378 IMGEYYRYDG TPFYKALWRE AKECLFVEPD EGAPTQGVFW YRNKY

FIGURE 2H

FIGURE 4

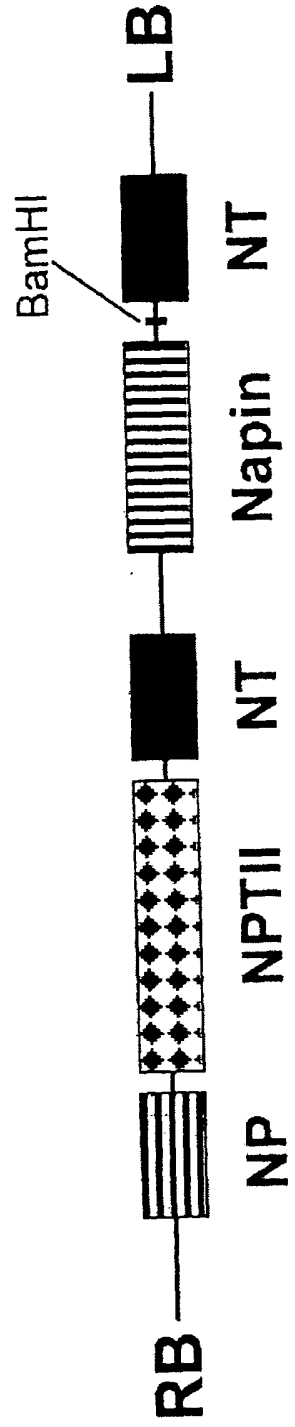


FIGURE 4

TOP SECRET

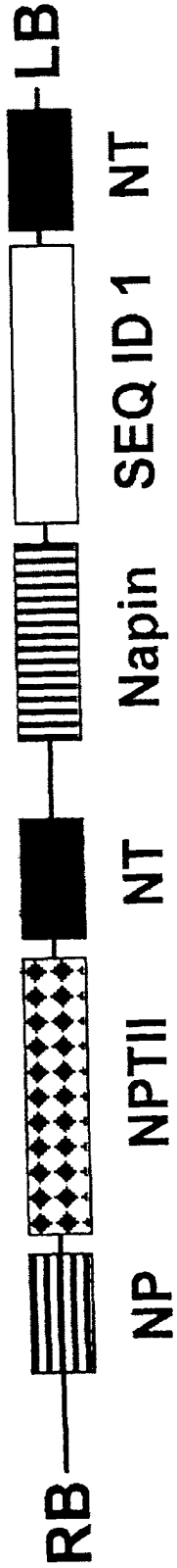


FIGURE 5

099121866

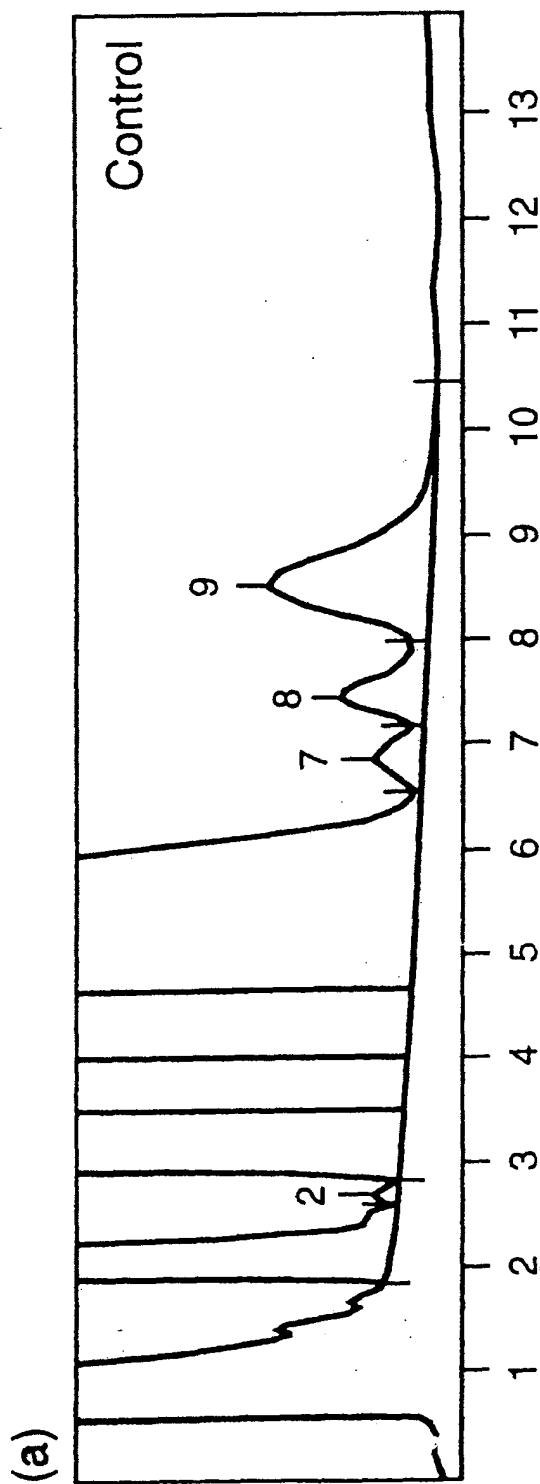


FIGURE 6A

20010212660

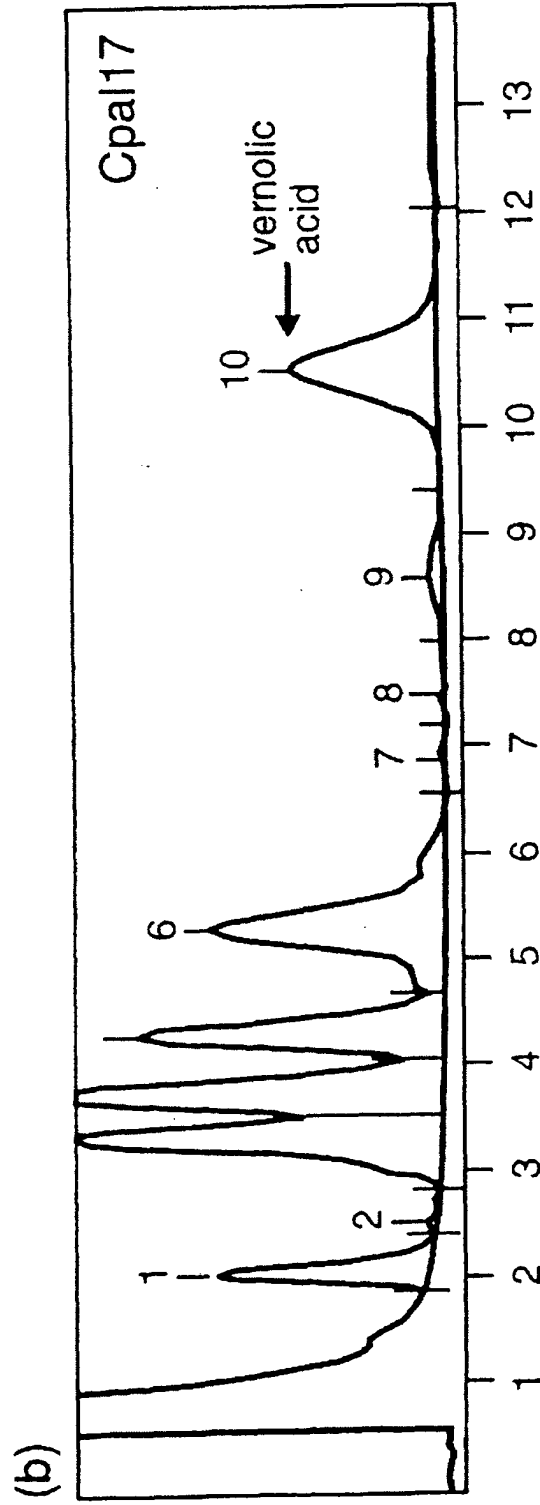


FIGURE 6B

FOOTNOTES

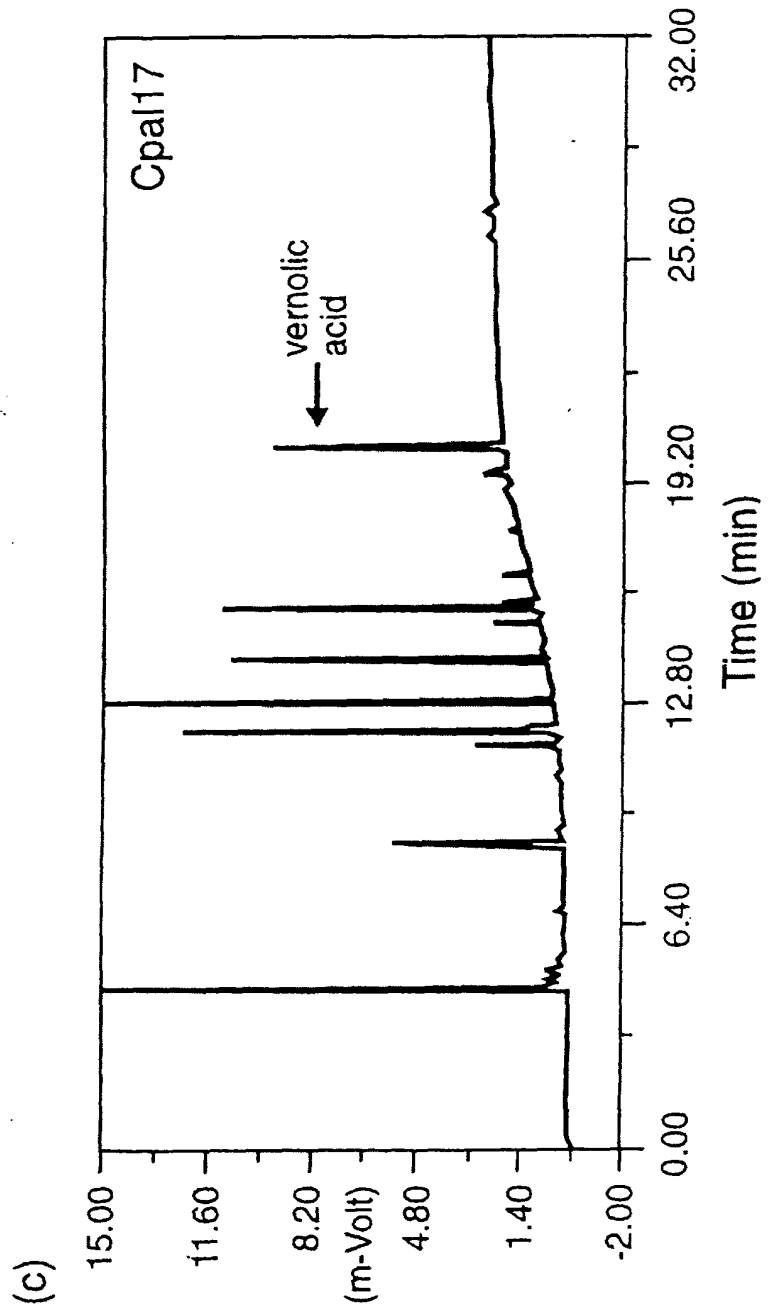


FIGURE 6C

FIGURE 7

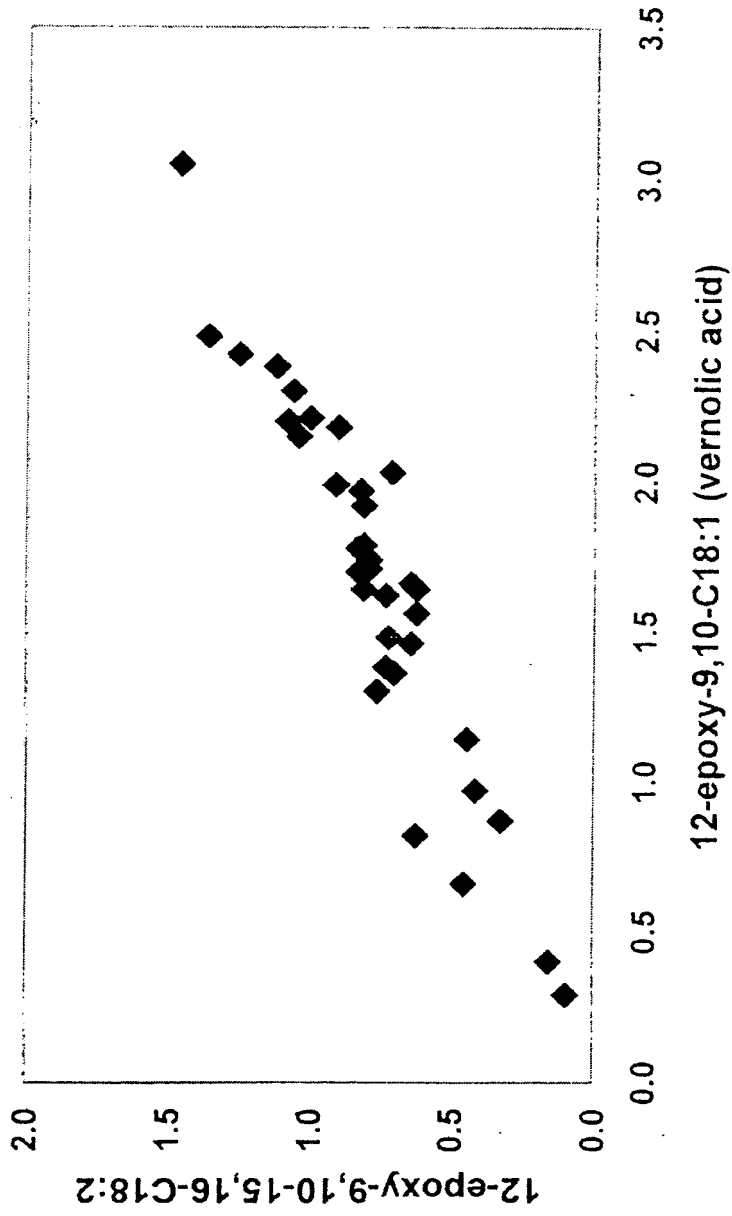


FIGURE 7

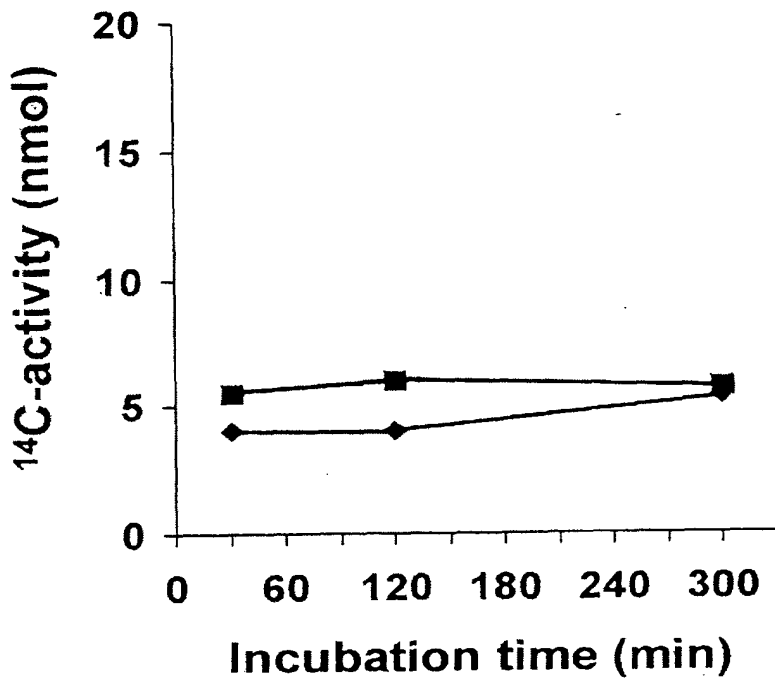


FIGURE 8

099117 121866

2001027138

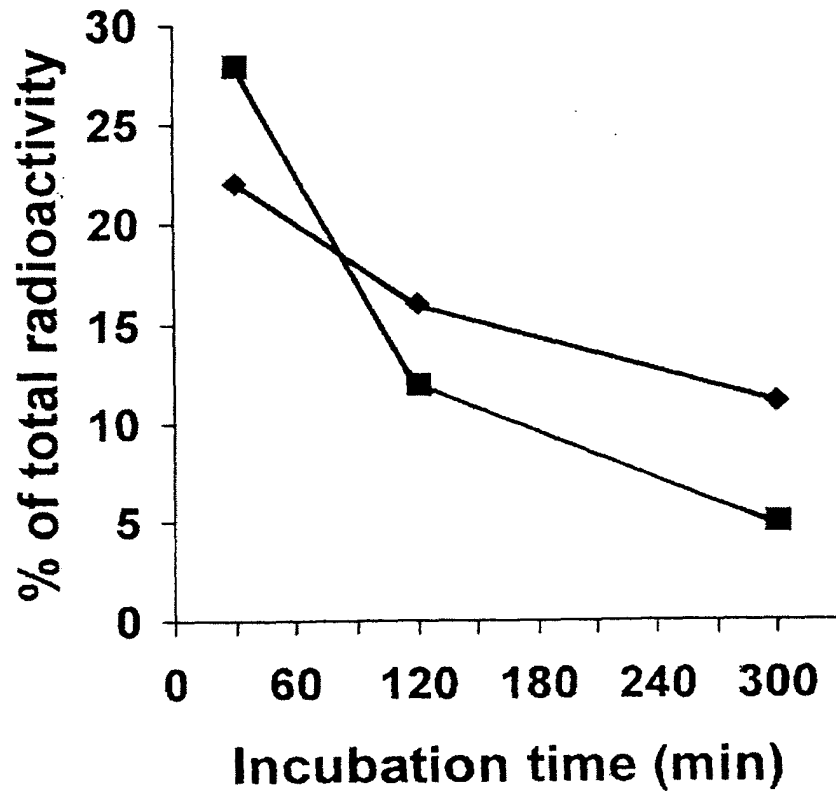


FIGURE 9

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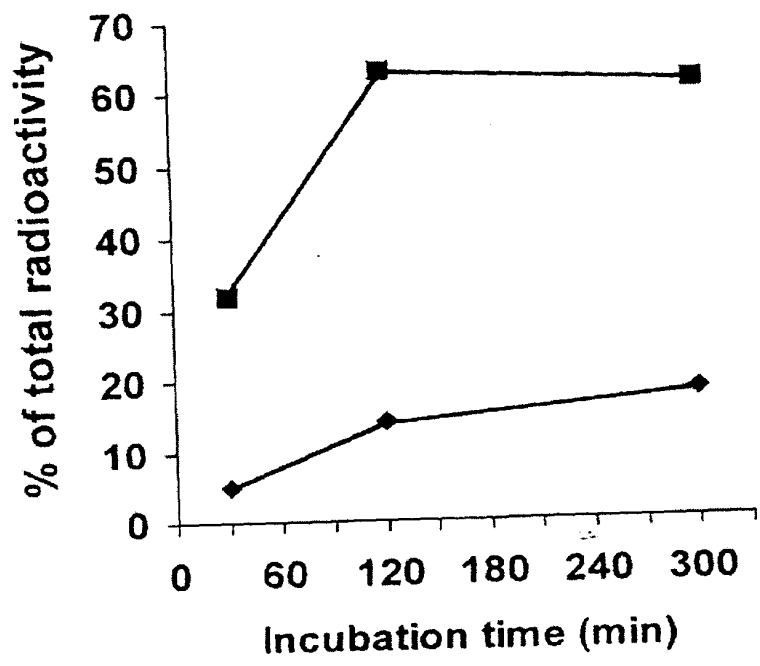


FIGURE 10